

XIV. *On the Nature of the Marine Production commonly called
Flustra arenosa. By John Hogg, Esq. B.A. F.L.S.*

Read March 18, 1823.

THE singular form and appearance of the marine substance commonly called *Flustra arenosa*, induced me lately to make the following observations, which I beg leave to lay before the Society, with its synonyma.

Flustra arenosa, crustacea arenosa lutosa, poris simplicibus subquincuncialibus. *Solander and Ellis Zooph. p. 17. n. 10.*
Gmelin Linn. Syst. Nat. vol. i. p. 3829. n. 13. Boys in Trans. Linn. Soc. vol. v. p. 230. tab. 10.

Flustre aréneuse, crustacée, friable, jaunâtre; cellules simples presque en échiquier. *Lamouroux Polyp. Corall. Flexibles, p. 111. n. 220. Bosc Hist. Nat. de Vers, iii. p. 118.*

Flustre arenacée. *Blainville in Diction. des Scien. Natur.*

Eschara (lutosa) crustacea arenaceo-lutosa, poris simplicissimis subquincuncialibus. *Pallas El. Zooph. p. 37. n. 5.*

Eschara Millepora arenosa Anglica. *Raii Syn. p. 31. Petiveri Mus. n. 271.*

English Sandy Millepora. *Ellis Coral. p. 74. pl. 25. fig. e.*

Alcyonium arenosum, flat, semicircular, consisting of agglutinated sand, pale yellowish-brown. *Turton Gmel. Syst. Nat. vol. iv. p. 654. Shaw Nat. Miscell. tab. 272.*

An Discopora cribrum, Discopore cribre? *Lamarck Anim. sans Vertèbres, vol. ii. p. 167.*

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This production is ranked by Ellis and Gmelin as a species of the genus *Flustra*, which belongs to the order *Vermes Zoophyta* of Linnæus; although Ellis is uncertain whether it belongs to that genus or not; and Gmelin also appears to doubt whether it be a *Flustra*. Mr. Boys in vol. v. of the *Trans. Linn. Soc.* above quoted, states that he considered it undoubtedly to be the *nidus* of some marine animal, as he had found the cells entire, with eggs in each; but later naturalists (Blainville perhaps alone excepted) do not agree with him in this opinion.

The shape of this substance is curious; it greatly resembles the hoof of a colt, and is about equal in thickness to the peel of an apple or of an orange.

It is composed of fine particles of sand, cemented by animal gluten, and forms a crustaceous substance of a semicircular shape, very friable when dry. If a piece be held to the light, it will appear full of circular cells, which are in some degree transparent, and placed nearly in a quincunx order. Upon opening the cells, I discovered in each, one or two minute testaceous bodies of a yellowish colour, which are transparent and very brittle. In the interior of these I further observed an orange spot, darker than the rest of the shell, and which I conjectured to be the dead animal belonging to the shell.

In order to ascertain more accurately the nature of this substance, and of the small shells I had observed in the dry specimen, I procured fresh from the sea on the coast of Durham, where it abounds, a piece, which I placed immediately in a glass of sea-water, and changed the water occasionally. A few days after, the embryo shells hatched; I examined them with a microscope, and found that they bore a perfect resemblance to the young shells of the *livid Nerite* (*Nerita glaucina* of Linn.). The animal contained in each was white, and had two very minute
black

black specks situated on the front, which I concluded without doubt to be its eyes.

TAB. IX. Fig. 1. represents, in its natural size, the under surface of a portion of this substance, broken through the middle of a perfect specimen, at right angles to its edge; and shows plainly the arrangement of the shells, which are expressed by the shaded parts of the drawing.

Fig. 2. is a similar section, somewhat magnified, to exhibit more clearly the forms of the cells, contained between the two layers of conglutinated sand.

Fig. 3. represents one of the minute shells in its natural size.

Fig. 4. is a back view of the same, highly magnified.

Fig. 5. is a young shell of *Nerita glaucina*, seen also from the back; which is here introduced to be compared with the last figure. And for the same reason, Fig. 6. shows the aperture and umbilicus of the shell, Fig. 5., in order to prove the exact resemblance which it bears to Fig. 7., another small shell, represented from the side of the aperture and umbilicus, and magnified on the same scale as Fig. 4.

Fig. 8. is the same as Fig. 7. in its natural size.

The exact similitude of these small testaceous bodies to the *livid Nerite*, induces me to believe that they are the young of that species.

This substance is sometimes found with a small hole in each of the cells opening on the under surface (as at Fig. 1.): this hole is formed by the shell contained in the cell, which, when sufficiently grown, forces its way through the under coating of sand, and thus exchanges its former abode for the shore.

If a part of this production, when perfectly dry, be immersed in muriatic acid, it will slightly effervesce, and the calcareous particles will be dissolved; and others which are indissoluble, will

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